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The Work Measurement System of the Department of Housing and Urban Development Has Potential but Needs Further Work to Increase Its Reliability. FPCD-77-53; B-183124. June 15, 1977. Released June 20, 1977. 29 pp. + 4 appendices (8 pp.).

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The Department of Housing and Urban Development (HUD) began developing a system for work measurement standards in 1972, in order to establish a basis for manpower requirements for budget submissions and allocation of personnel. Findings/Conclusions: HUD's original claims of extensive standards were not justified, as revised statements showed that standards were used to develop estimates for only about 42% of staff requirements. The reliability of standards varied because of weaknesses such as: (1) lack of studies on methods for achieving work efficiency, (2) variation in data produced by the questionnaire/interview procedures, (3) insufficient definition of tasks, (4) use of subjective judgments, (5) lack of documentation, and (6) lack of procedures to review and update standards. Discrepancies were noted in workload forecasts with some appearing excessive and some being understated when compared with prior years' accomplishments. The budgeting process seemed to inhibit reliable staffing estimates and led to use of contract personnel. Recommendations: HUD should improve practices for developing work measurement standards by (1) performing methods studies on task efficiency, (2) improving data collection and analysis, (3) defining tasks in greater detail, (4) assuring independence of individuals setting standards, (5) improving documentation, (6) formalizing a process for reviewing and updating standards, and (7) reevaluating staff resources to develop and maintain the system. The Subcommittee on HUD-Independent Agencies should encourage HUD to develop a more objective and reliable work measurement system, and require that the budget submission include a comprehensive plan and statement on the progress made in the system's development. (HTW)

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REPORT OF THE COMPTROLLER GENERAL OF THE UNITED STATES

The Work Measurement System Of The Department Of Housing And Urban Development Has Potential But Needs Further Work To Increase Its Reliability

The budget staffing requests of the Department of Housing and Urban Development should be based on techniques which are reliable and useful in the budget process. The concept of work measurement offers the potential to do this.

The Department has made progress in developing work measurement standards and some are more reliable and useful than others. However, the standards should not yet be accepted at face value for estimating the personnel required to efficiently perform the work of the Department.

The Department should be encouraged to continue to develop its work measurement system and to increase the reliability of its work standards, where practical. First, the Department needs to improve its practices for developing standards.



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-183124

The Honorable William Proxmire
Chairman, Subcommittee on
HUD-Independent Agencies
Appropriations Committee
United States Senate

Dear Mr. Chairman:

This report describes the extent to which the Department of Housing and Urban Development has developed objective, reliable work measurement standards for personnel budgeting at the national level.

Our review was made pursuant to your request of July 29, 1976, and subsequent discussions with your office. As requested by your office, we did not obtain formal comments from the Department. However, the results of our review were discussed with various agency personnel, including the Secretary of Housing and Urban Development, and their comments have been considered in preparing the report.

The report contains recommendations to the Secretary of Housing and Urban Development which are set forth on page 28. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report. We will be in touch with your office in the near future to arrange for release of the report so that the requirements of section 236 can be set in motion.

Sincerely yours,

A handwritten signature in black ink, appearing to read "James B. Steele".

Comptroller General
of the United States

REPORT OF THE
COMPTROLLER GENERAL
OF THE UNITED STATES

THE WORK MEASUREMENT SYSTEM
OF THE DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT HAS
POTENTIAL BUT NEEDS FURTHER
WORK TO INCREASE ITS RELI-
ABILITY

D I G E S T

Developing reliable work measurement standards takes time and is not a simple effort. Various techniques are available to develop standards--engineered standards, technical estimates, historical standards--to mention the more common. The method or combination of methods used will depend to a great extent on the activity to be measured. Consideration must be given to the long-term benefits and costs of detailed measurement methods versus less precise methods.

The Department began developing its work measurement system in 1972. Progress has been made and work continues on the system. In testimony before the Congress and in recent budget documents, the Department referred to an extensive system of work measurement standards directly relating staffing needs to workloads. In March 1976 a Department official testified that 63 percent of its staffing was covered by "detailed work measurement standards."

The Department's work measurement standards are not as extensive as purported. During testimony on the fiscal year 1978 budget, a HUD official clarified that standards are used to develop estimates for only about 42 percent of the Department's staff requirements. Most central and regional office employees, as well as support staff in area and insuring offices, are not covered by work measurement standards. (See p. 15.)

While some standards are more reliable than others, they should not yet be accepted at

FPCD-77-53

face value for use in estimating the personnel required to efficiently perform the work of the Department. There are weaknesses in the Department's practices for developing them:

- Methods studies on how to work efficiently and to eliminate nonessential and duplicate operations were not a part of standards development; hence, standards incorporated whatever inefficiencies existed in the way work was done. (See p. 7.)
- The questionnaire/interview procedures resulted in data that varied widely, making it virtually impossible to develop valid standards from such data. (See p. 8.)
- Tasks for some standards were not defined in sufficient detail. This resulted in large task times and greater margins of error in the data. (See p. 9.)
- Data was discarded and personal judgments used to develop some standards, making them subjective estimates rather than true work measurement standards. (See p. 10.)
- Program managers were involved in setting some of their own standards and may have influenced them on the high side. (See p. 11.)
- Documentation was not available to support some standards, particularly the reasons why data was adjusted. (See p. 13.)
- Sample offices from which some standards were developed are probably not representative of the Department as a whole. (See p. 13.)
- No formalized procedure exists to assure that standards are reviewed and updated when organizational or procedural changes are made to improve efficiency. Without this procedure, standards may soon be outdated. (See p. 14.)

Because the standards cannot yet be accepted at face value, however, does not necessarily mean that they overstate personnel requirements. While it is likely that some do, it is also likely that some understate them.

The Department may not have sufficient staff to adequately develop and maintain its work measurement system. (See p. 14.)

Accurate workload forecasts are a key factor in arriving at personnel requirements. GAO noted several discrepancies: workload forecasts that appeared excessive when compared to prior year accomplishments, forecasts that appeared understated when compared to the past or to procedure manual requirements, and workload which was not forecast at all. (See p. 24.)

The budgeting process, which is the exclusive responsibility of the Department's central office, seems to inhibit the development of accurate workload forecasts and reliable staffing estimates. The central office decides how much of the total workload should go to each regional office, although changes can and do occur after the overall budget is approved. (See p. 24.)

To compensate for perceived staff shortages in subsidized and other housing programs, the Department has been relying heavily on fee personnel (contract personnel hired to perform services such as appraisals) in the insured single family program. Fee personnel are paid from a separate mutual insurance fund. (See p. 23.)

The extent to which fee personnel are used to supplement Departmental in-house staff was reflected inaccurately in the fiscal year 1977 budget, and may not be accurately reflected in the fiscal year 1978 budget. After the fiscal year 1977 budget was approved, the Department increased the percent of appraisals estimated to be done on a fee basis from 15 to 75 percent. This frees for other work 200 staff-years initially budgeted for in-house appraisals. In

spite of this 75-percent estimated fee use in fiscal year 1977, the fiscal year 1978 budget reflects only a 25-percent fee appraiser fee. Each 1-percent increase in fee use over 25 percent will free the equivalent of 4.69 staff-years to do other work. (See p. 24.)

Accurate information relating time expended (input) and number of detailed tasks done (output) is needed to improve the Department's work measurement system. Such information, not now routinely generated, will permit management to better evaluate performance, assess organizational efficiency, and develop more accurate forecasts of workload and staffing needs. HUD has established a time reporting system, but its accuracy is questionable because of reporting deficiencies at the employee level. Moreover, the system is not integrated with the payroll system or the workload reporting system; the latter is in its early stages of development. (See p. 19.)

GAO recommends that the Secretary of Housing and Urban Development improve the Department's practices for developing work measurement standards with the goal of achieving more objective and reliable bases for estimating its personnel requirements. GAO recommends ways to improve HUD's practices. (See p. 26.)

In addition, GAO recommends that the Subcommittee:

- Encourage the Department to develop its work measurement system toward the goal of more objectively and reliably determining personnel requirements.
- Direct the Secretary to present with the fiscal year 1979 budget submission (1) a comprehensive plan for proceeding with the Department's work measurement system development and (2) a statement on the progress it has made in dealing with the issues discussed in this report.

As requested by the Subcommittee's office, written comments were not obtained from the Department. However, GAO discussed the report with Department officials and considered their views.

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ABBREVIATIONS

GAO	General Accounting Office
HUD	Department of Housing and Urban Development
OMB	Office of Management and Budget

CHAPTER 1

INTRODUCTION

During the fiscal year 1977 budget hearings, the Secretary of the Department of Housing and Urban Development (HUD) testified that HUD had an extensive system of work measurement standards from which it could reliably estimate personnel requirements.

The Chairman of the Subcommittee on HUD-Independent Agencies, Senate Committee on Appropriations, requested that we review HUD's progress in developing work measurement standards and evaluate the extent to which existing standards are valid for determining personnel requirements. (See app. I.)

HUD ORGANIZATION AND STAFFING

HUD was created in 1965 to consolidate various Federal housing activities into a Cabinet-level department. It is the principal Federal agency responsible for programs concerned with housing needs and improving and developing the Nation's communities. It has responsibility for the administration of Federal assistance programs involving housing, community development, and related activities.

HUD consists of three organizational levels: the central office, 10 regional offices, and 76 area and insuring offices. Determination of staffing requirements and budget formulation are functions of the central office, which also allocates staff and workload to the regional office level. Each regional office, in turn, allocates staff and workload to its own programs and to the area and insuring offices within its jurisdiction. Staff distribution between the central office and field offices is as follows:

	Staff ceiling			
	Approved		Budget request	
	Fiscal year 1977		Fiscal year 1978	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Central office	3,867	24.8	3,959	23.6
Field offices	<u>11,703</u>	<u>75.2</u>	<u>12,931</u>	<u>76.4</u>
Total	<u>15,570</u>	<u>100.0</u>	<u>16,790</u>	<u>100.0</u>

Note: A further breakdown of personnel by division is shown in app. III.

HUD's budget for salaries and expenses is estimated at \$454 million and \$439 million for fiscal years 1977 and 1978, respectively.

WORK MEASUREMENT STANDARDS IN HUD

In 1972, HUD established a task force to determine the feasibility of developing work measurement standards for the field offices. From this effort, standards were developed and published covering major field activities. HUD recognized that these standards were unrefined, but believed they were usable for determining manpower requirements.

In 1974, a Manpower Resources Division (later changed to Staff Resources Division) was established. This Division was charged with the responsibility for developing and maintaining manpower management systems, including work measurement, productivity analysis, cost analysis, and manpower allocation systems.

The work measurement system and work standards are intended to provide an objective, reliable basis for determining personnel requirements for budget submissions, allocating personnel to operating elements of the agency, and measuring efficiency and productivity.

Office of Management and Budget (OMB) Circular A-11 requires that work measurement, unit costs, and productivity indexes be used to the maximum extent practical by Federal agencies in justifying personnel requirements for measurable workload. The Director, OMB, emphasized that productivity and work measurement should be extended, whenever practical, to all areas and the data integrated into a management control and evaluation system.

TECHNIQUES USED IN ESTABLISHING STANDARDS

Various engineering and nonengineering techniques can be used for developing standards.

Engineered standards are based on analysis and measurement of the time a task should take to produce acceptable quality under proper working conditions. They are generally developed using formal analytical techniques such as time study, work sampling, standard data and predetermined time systems. Such standards are most useful for high-volume activities where detailed planning and control are desired, and are frequently used in an industrial setting.

Nonengineered standards are those developed without using engineering techniques, and tend to be less reliable than engineered standards. Historical and technical estimates are the methods most commonly used to develop nonengineered standards.

Historical estimates are based on data relating time expended to the work produced. A drawback to this technique is that it assumes that what has happened in the past is good practice and that future conditions will be the same. With such standards, it is difficult to accurately assign a reason to significant deviations. They can, however, be quickly applied to provide extensive standards coverage. Also, the standards so developed can be updated over time by the use of work sampling or methods studies and adjusted to more appropriately reflect the time it should take to do the work.

One specific historical technique is based on obtaining data for work performed under controlled working conditions. After receiving detailed instructions on how to use the survey forms and the definitions of the work units, employees record how they have spent their time over a short period.

Technical estimates are derived by breaking jobs into work units or stages and having a technically qualified person estimate how long each of the stages should take. Estimates can be developed by a panel of knowledgeable people who estimate time requirements and through discussion reach a consensus of opinion. The work unit estimates are then summed to obtain the standard time. A disadvantage of this technique is that it relies considerably on the judgment of the persons making the estimates, and as such may vary greatly from the actual time it takes to do the job. This makes it difficult to assign causes to deviations from the standards. An advantage of technical estimates, however, is the low cost of using them to develop standards. It may also be the only technique available to develop standards for highly technical or irregular work such as research or technical projects.

The techniques we have described are not all inclusive. Basically, the method or combination of methods used will depend to a great extent on the activity to be measured. The standard setter must consider the long-term benefits and costs usually associated with detailed measurement methods against the drawbacks and economies of less precise methods.

REVIEW OBJECTIVES AND SCOPE

The specific objectives of our review were to ascertain the extent to which the fiscal year 1978 budget estimates for personnel were computed by applying work measurement standards to workload forecasts, and evaluate the reliability of existing work measurement standards for national budgeting purposes.

Our review was performed at HUD's central office in Washington, D.C., region V in Chicago, and region IX in San Francisco. At the central office, we ascertained the extent to which the fiscal year 1978 budget request for personnel is based on work measurement standards.

At the central office and in region IX, we evaluated the processes used to develop and apply work measurement standards and consulted with technical advisors on the standards' reliability in relation to budgeting at the national level.

Our review focused on the work measurement standards in relation to HUD's four principal program divisions: Housing Production and Mortgage Credit, Housing Management, Community Planning and Development, and Fair Housing and Equal Opportunity. 1/

Within the four divisions, our major focus was on the larger programs and new or expanded programs requiring added staffing in fiscal years 1977 and 1978.

At the regional offices we compared time charge reports to workload output reports and ascertained the methods used to allocate both workload and staff to the area and insuring offices. We also visited the Chicago and San Francisco area offices and the Cincinnati insuring office to evaluate the integrity of HUD's time reporting system.

To compare the use of work measurement by HUD and non-Federal organizations, we contacted several trade associations and private mortgage credit institutions and inquired about their use of work measurement standards. We also contacted OMB to ascertain what technical assistance is available to agencies planning work measurement systems. (See app. IV.)

1/The two housing divisions have since merged into the Housing Programs Division.

Our review did not deal with the extensiveness or reliability of HUD's productivity measurement system or its financial management system.

CHAPTER 2

RELIABILITY OF HUD'S WORK MEASUREMENT

STANDARDS AND COVERAGE

The Subcommittee, in reviewing HUD's fiscal year 1978 budget, should not accept HUD's work measurement standards at face value for estimating the personnel required to efficiently perform the work of the Department. Further, the standards are not as extensive as purported in budget documents and in testimony before the Congress.

RELIABILITY OF STANDARDS

HUD, in developing work measurement standards for field activities of its major program divisions, did not follow acceptable practices for developing reliable work measurement standards. Specifically, the defects were these:

- Methods studies on how to work efficiently and to eliminate nonessential and duplicate operations were not a part of standards development. As a result, the standards which were developed or updated incorporated whatever inefficiencies existed in the way work was done.
- The questionnaire/interview procedures resulted in data that varied widely, making it virtually impossible to develop valid standards from such data.
- Tasks for some standards were not defined in sufficient detail, resulting in larger task times and greater margins of error in the data.
- Data was discarded and personal judgments were used to develop some standards, making them subjective estimates rather than true work measurement standards.
- Program managers were involved in setting some of their own standards and seem to have influenced them on the high side.
- Documentation was not available to support some standards, particularly the reasons why data was adjusted.

--Sample offices from which some standards were developed may not be representative HUD-wide.

--No formalized procedure exists to assure that standards are reviewed and updated when organizational or procedural changes are made to improve efficiency. Without this system, standards may soon be outdated.

As a result of these weaknesses, we do not believe that existing work measurement standards should be accepted at face value for estimating personnel requirements in the fiscal year 1978 budget.

This does not, however, mean that personnel requirements are overstated. While it is likely that some are, it is also likely that some are understated. However, because the standards were developed by means of defective practices, they cannot be regarded as reliable indicators of how long it takes to perform tasks efficiently.

The effect of using inaccurate standards for budgeting can be great. To illustrate, the fiscal year 1977 forecast for conditional commitments under the insured single family proposed construction program is 140,000 units. If the existing standard of 5.72 hours for processing these applications is off by only 1 hour (less than 20 percent) it means an overstaffing or understaffing of 78 positions.

Methods studies not performed

Work measurement standards should be based on the most efficient and economical ways for performing given tasks. If the standards are based on existing procedures they will incorporate whatever inefficiencies exist in those procedures and perpetuate them. Therefore, methods studies to identify the most efficient way to work and highlight nonessential and duplicate operations should, where practical, be done before standards development. Yet, because of the time involved in making methods studies, it may be more practical to establish standards using historical data or technical estimates without first making methods studies. However, in these cases, methods studies should be subsequently made, as soon as possible, and the standards revised to reflect "should take" time, especially where the initially collected data has high variability.

In developing its standards, HUD did not analyze the way its work was being done to identify inefficiencies prior or subsequent to developing them. Rather, it based its standards by and large on the existing ways of performing

tasks. Whatever inefficiencies existed in the way work was being done were incorporated into the standards.

A number of recent studies have pointed out inefficiencies in the way HUD's work was being performed. It has been noted that because of differences in the types and degree of authority delegated to field offices there had been duplication of effort at all three levels of HUD's organization.

To deal with these problems, HUD began a series of management initiatives, one of which was a study started in 1975 known as Process Analysis. This consisted of several detailed on-site analyses of the processes field offices used to administer HUD's programs to the public. In essence, Process Analysis was an attempt to discover, through discussions with field managers, whether there were better, simpler, more realistic, and more effective ways to perform HUD's work. All four major program areas in the field, as well as administrative support functions and operations, were covered.

The results of these process analyses were not used in developing new or revising existing work measurement standards, but they should have been, and future results should be also. HUD said in March 1977 that an analysis of the way work is done will be incorporated in future standards development efforts.

Highly subjective data collection procedures

In collecting data to develop standards, particular care must be taken to assure valid data. Time studies in which work performance is directly observed and recorded are generally reliable. On the other hand, interview or questionnaire methods by which individuals are asked to estimate the time they needed to do certain tasks are less reliable since they depend to a large degree on memory and can be influenced by personal bias. Particular care must be exercised when the questionnaire/interview approach is used.

A major step in HUD's approach to developing its work measurement standards was to solicit the estimates of supervisors and of employees doing the work on how long it takes to complete various tasks. In some instances, employees were asked to recall time spent doing tasks over a 1-year period. In all four program areas the frequent result of this approach was widely varied responses. In our opinion,

it is virtually impossible to arrive at a valid standard from data that vary widely.

Further, when wide variance appears in data, it is a generally accepted practice to further analyze it and find out why. There was no evidence that HUD analysts attempted to do this. As discussed later, in many cases data was simply discarded.

Inadequate task definition

We believe another cause of unreliable data and questionable standards is that in some cases the tasks for which data was requested were not defined in sufficient detail so that accurate measurements could be taken.

We reviewed the breakdown of tasks for four activities in the Housing Production and Mortgage Credit area, as shown in the following table:

<u>Category</u>	<u>Activities</u>			
	<u>Single Family</u>		<u>Proposed sub-division</u>	<u>Multi-family insured</u>
	<u>Proposed construction</u>	<u>Existing construction</u>		
Number of detailed tasks	25	19	9	35
Percent of tasks 1 hour or more	36	42	100	100
Average task time (hours per task)	1.0	1.2	12.6	24.7

The average task time and percent of tasks greater than 1 hour are highest for the proposed subdivision and multi-family standards because these standards were broken down into broad processing phases, not detailed tasks and sub-tasks.

Conceiving tasks as long, general phases rather than short, detailed steps affects the ability of individuals to accurately estimate how much time a given task takes. This is illustrated by the following table, which was based on two series of estimates made by the HUD San Francisco region in revising single and multifamily standards.

<u>Category</u>	<u>Activity</u>			
	<u>Single Family</u>			<u>Multi-family insured</u>
	<u>Proposed construction</u>	<u>Existing construction</u>	<u>Proposed sub-division</u>	
Average task time (hours per task)	1.0	1.2	12.6	24.7
Average percent deviation in estimates between 1976 task time and 1975 task time	23.2	14.8	96.3	61.3

This table suggests a significant difference in ability to accurately estimate time for given tasks when the average task time is large.

As to why tasks were not defined in more detail, the HUD study group said that task sheets and descriptions used to develop the Housing Production and Mortgage Credit standards were based on HUD handbook procedures, supplemented by program knowledge. These officials described the handbook procedures for the four selected standards as (1) detailed for both single family existing and proposed construction, (2) not adequately detailed for single family proposed sub-division, and (3) very vague for multifamily insured projects. Thus, standards development was begun without clear definitions for all activities to be measured.

Similar conditions existed regarding the standards developed in the Housing Management program area. Although the work measured by the Housing Management standards includes numerous processing steps, the standards do not reflect it. For instance, the task of inspecting property, listing property for sale, and executing a contract for sale are all covered by the single family property disposition standard.

Adjustments to data

Faced with the wide variability in sample data, HUD analysts frequently discarded data as being not representative. For example:

- In Housing Management sample data was eliminated to achieve the high statistical correlation HUD analysts believed was necessary to establish a standard. Data collected from 11 of 19 offices surveyed was eliminated in developing the standard for the management of insured multifamily projects.

--In developing the standards for field activities of the Community Planning and Development Division, extreme data points were also discarded, usually one high one for each low one. The number discarded varied from standard to standard. In one instance, 36 employees were interviewed concerning the time spent in program management activities, and all but 13 sample results were discarded in developing the standards.

Selective use of data is acceptable when a distorting factor is known to be present, and then the data may no longer be representative of the universe from which it was drawn. HUD personnel did not analyze the reasons for the wide variations in times reported by interviewees. Such analyses should have been made.

Objectivity of developed standards

Individuals selected to develop work measurement standards should be, to the extent practical, independent of the organizational element to which the standards apply. If such individuals have proprietary interests in the programs for which the standards were developed, they might influence the results. They may be relied on for input where technical estimates are used, but the persons responsible for setting the standards should review these estimates and resolve significant differences.

We examined the groups responsible for developing selected standards in the Housing Production and Mortgage Credit area. We noted that the individuals responsible for setting the standards were predominantly Housing Production and Mortgage Credit officials. In effect, they were setting standards for their own operations. The study participants who set the standards by office and division are shown in the following table.

1975 and 1976 Study Participants

<u>Location/ division</u>	1975 Standards study <u>committee</u>	1975 Negotia- tions task <u>force</u>	1976 Standards study <u>committee</u>	1976 Negotia- tions task <u>force</u>
HPMC with program responsibility	6 (60%)	8 (67%)	5 (71%)	14 (64%)
Central office or region administration responsibilities	<u>4</u> (40%)	<u>4</u> (33%)	<u>2</u> (29%)	<u>8</u> (36%)
Total participants	<u>10</u> (100%)	<u>12</u> (100%)	<u>7</u> (100%)	<u>22</u> (100%)

We have no way of knowing if or to what extent these individuals influenced the standards. We have evidence, however, to suggest that when section chiefs were allowed to set task times for their programs, as was the case in developing the Housing Production and Mortgage Credit standards, they tended to opt for the larger times, as shown in the following table.

Section Chief Judgment

<u>Activity/task</u>	<u>Task processing time in hours</u>			
	<u>Task times obtained by interview</u>	<u>Average task time</u>	<u>Final task time reported</u>	<u>Difference between average and final</u>
Existing construction:				
Inner city appraisal	3.20			
Suburban appraisal	3.00	3.10	3.20	+.10
CRV appraisal	2.00	2.34	2.67	+.33
2-3-4-unit appraisal	2.67			
Appraisal	1.00	1.00	1.00	-
2-3-4-unit appraisal	4.50			
Appraisal	5.00	4.75	4.75	-
Proposed construction:				
Appraisal	3.00			
Valuation-reprocessing	4.00	3.50	4.00	+.50
Valuation-adjustment	2.50	2.63	2.75	+.12
Architect-reprocessing	.25	.25	.75	+.50
Architect-adjustment	1.00	.75	1.10	+.35
Architect-reprocessing	.50	.75	1.10	+.35
Architect-adjustment	.30	.28	.25	-.03
Appraisal	.25			

In most instances, the final field office task times selected by the section chiefs were the higher of the estimates obtained by interview.

It appears to us that program managers have influenced some work measurement standards and, as noted in the preceding table, have tended to influence them on the high side.

Lack of documentation

We could not trace the process used in developing some standards because of incomplete documentation and the inability of people to remember. For example, we were not able to review the procedures used to develop section 8 program standards, which account for 924 staff-years in the fiscal year 1978 budget, because HUD personnel could not locate the supporting documentation and the individual who developed the standards had retired.

In addition, the reasons were not documented for some of the judgments made in adjusting the data to arrive at the standards. As a result, we were unable to completely evaluate why data was discarded, nor could we determine the basis for judgments.

We believe it is important in developing, reviewing, and updating standards that the bases for judgments be documented and retained so that they may be examined in the course of any future review or revalidation process.

Offices selected for data collection may not represent HUD as a whole

Since almost all HUD standards are national in scope, applying to all regions, it is important that they be representative of HUD as a whole. If they are not, some offices will be understaffed and others overstaffed, and the standards will be defective.

In developing some of its Housing Production and Mortgage Credit standards, HUD appears to have selected the locations for data collection more on the basis of convenience or the initiative of a given region rather than the representativeness of the offices. For example, we were told that the San Francisco regional office took the initiative in revising the standards for two large programs in the Housing Production and Mortgage Credit area. In 1975, the San Francisco region revised standards for both the insured

single family and multifamily programs; these support approximately 12 percent of HUD's staff-years. They were subsequently updated in 1976, again based on work in the San Francisco region. According to HUD staff in San Francisco, these studies were initiated by the region to justify their regional staffing needs on the basis of their workload. The HUD central office applied these standards to all regional offices except the Boston, New York, Philadelphia, and Chicago regions, where they increased some single family standards by as much as 50 percent. There was no conclusive data to support the increase in the standards for these regions.

Regional and field office officials have questioned the appropriateness of national standards for many of the housing and Community Planning and Development programs. They cited varying travel requirements, workload mix, and other differences which cannot be factored into a national standard. HUD plans to study the feasibility of developing regional standards.

No mechanism for updating standards as efficiency improves

Once standards are developed, a system is needed to assure that changes in procedures which influence standards are fed back into the standards review process. This is necessary to assure that standards are updated as more efficient procedures are instituted.

Yet in HUD, as organizational changes have taken place to increase efficiency, the results have not been used to revise existing standards. For example, standards did not change when HUD merged the two housing program divisions, a move designed to achieve greater efficiency and effectiveness. HUD standards have been revised over the years, but the revisions were not prompted by procedural or organizational changes.

Unless HUD institutionalizes a process for reflecting organizational efficiency improvements in work measurement standards, its work measurement system will continue to have defects and reflect greater staffing and costs than are actually required.

Staff resources for work measurement system development

The organizational unit in HUD responsible for initiating and coordinating standards development is the Staff

Resources Division. The Division staff is made up of 15 professionals and 7 clerical personnel. We were told that the professional staff devotes approximately 5 staff-years to work measurement development and productivity measurement.

In recent years the Staff Resources Division has taken on additional workload such as preparing regional operating plans and assisting in HUD budget preparation without corresponding increases in staffing levels. These additional two responsibilities take up the majority of the Division's staff time between mid-May and mid-January. Only about 4 months per year are devoted to developing and validating work measurement standards; this is between January and May.

We noted that due to other work, validating work measurement standards has not been done as planned. For example, the assisted housing standards are recognized to be inadequate because no experience data was available for the section 8 program when standards were developed. The Staff Resources Division sees the need for establishing valid section 8 standards, but no firm decision has been made as to when and where these standards will be redeveloped.

A study, "Improving Work Measurement Systems in the Federal Government," prepared by the U.S. Army Management Engineer Training Agency, recommended that several defense organizations staff their work measurement groups with one analyst for each 400 employees when using historical or technical estimates techniques. Applying this criterion to HUD's staffing levels indicates the Staff Resources Division should have about 44 qualified personnel for standards development. While we do not advocate this as the appropriate ratio, it does suggest that HUD may not have the staff to adequately develop and maintain its work measurement system on a full-time basis.

EXTENT OF COVERAGE

During the Senate Appropriations Subcommittee hearing in 1976, the Secretary made the following statements about the work measurement system:

"I think that our work measurement standards have become quite refined, probably better than in any of the other departments of government. I like to think they are among the best."

* * * * *

"* * * we are now able to tell you with a high degree of reliability the staffing impact of changes in program levels * * *."

* * * * *

"* * * we have a staffing budget which is demonstrably related to workload estimates."

In March 1976, a HUD official testifying before the House Subcommittee on Housing and Community Development, Committee on Banking, Currency and Housing, stated that 63 percent of the Department's staffing was covered by detailed work measurement standards, and he furnished the following table:

	Percent of total <u>HUD staff</u>
<u>Covered by standards:</u>	63
<u>Field:</u>	
Housing Production and Mortgage Credit	29
Housing Management	20
Equal Opportunity	3
Direction and administration	6
<u>Headquarters:</u>	
Office of Finance and Accounting	5
<u>Covered by other criteria:</u>	12
<u>Field:</u>	
Community Planning and Development	8
Direction and administration	4
<u>Not covered:</u>	<u>25</u>
<u>Field:</u>	
Legal, Federal Insurance Adminis- tration, other	3
Other headquarters (note a)	22
Total	<u>100</u>

a/Program staff offices, operating divisions, Inspector General, and administration.

In its fiscal year 1978 budget submission, HUD asserted that the

"* * * work measurement system has substantially improved the accuracy of the staffing estimates for the major program areas of Housing, Community Planning and Development, and Fair Housing and Equal Opportunity."

Further, the effort invested in the work measurement system was said to have resulted in realistic personnel estimates. The Secretary stated, "* * * we are handing over a strong and shiny piece of equipment to the new administration. Programs, work measurement standards and tracking mechanisms are firmly in place."

More recently (Mar. 1977), and subsequent to our review and briefing to the Secretary on our review's results, HUD officials substantially revised their estimates of staff covered by work measurement standards. Instead of the earlier 63-percent figure, HUD indicated in testimony before the Subcommittee on HUD-Independent Agencies that only 45 percent of its staffing is currently covered by work measurement standards. HUD personnel later said that overhead allowances included in the standards for one operating division should not have been. Without these allowances, only 42 percent of the Department's staffing for fiscal year 1978 is covered by work measurement standards. This figure is largely the result of the fact that standards were not used in developing staffing estimates for most activities of the central and regional offices and support activities in area and insuring offices.

The following table shows HUD's 42-percent work measurement standards coverage in the fiscal year 1978 budget.

	<u>Staff-years</u>		<u>Total</u>	<u>Percent covered by standards</u>
	<u>Covered by work measurement standards</u>	<u>Not covered by work measurement standards</u>		
Field:				
Housing Programs	5,917	2,237	8,154	73
Community Planning and Development	733	637	1,370	54
Fair Housing and Equal Opportunity	66	355	421	16
All other	-	3,448	3,448	-
Central office:				
Office of Finance and Accounting	896	54	950	94
All other	-	3,616	3,616	-
Total	<u>7,612</u>	<u>10,347</u>	<u>17,959</u>	<u>42</u>

A more detailed breakdown of the fiscal year 1978 budget is shown in appendix II.

We believe that in prior years HUD oversold the extensiveness of its system. According to HUD officials, the Department was under congressional pressure to develop a system which would justify to the Congress the basis of HUD staffing estimates. This year, HUD seems to be more realistically presenting the status of its system.

CHAPTER 3

OTHER ISSUES RELATED TO

HUD'S WORK MEASUREMENT SYSTEM

In addition to reviewing the coverage and reliability of HUD's work measurement system, we examined other issues which relate to HUD's ability to achieve the maximum potential from its system. Specifically, we reviewed

- the integration of the work measurement system with the time, workload, and cost reporting systems to achieve measures of organizational efficiency,
- the use of fee personnel and its relationship to personnel staffing, and
- the validity of the workload forecasting system.

INTEGRATION OF WORK MEASUREMENT WITH TIME, WORKLOAD, AND COST REPORTING SYSTEMS

In addition to its use in budgeting for personnel, HUD's work measurement system was intended to provide a basis for determining and comparing the efficiency of its operations. Essential to achieving this objective, however, are accurate methods for reporting time and workload. These methods should be fully integrated with the work measurement system. HUD is not fulfilling this intent because

- data collected from its time and workload reporting system is not always consistent with work measurement standards data requirements,
- the accuracy of time reporting data is questionable, and
- the accuracy of reported work accomplished is questionable.

Compatibility of data

When a work measurement system is integrated with an accurate time and cost reporting system, efficiency of operations is measurable. The work measurement system establishes measures of individual or group performance or output; the time and cost reporting system measures how long work takes and what it costs to do it (input). Efficiency can then be

expressed as the relationship between input and output. If the same mathematical units are used to describe both input and output, and the data is accurate, an organization can measure its efficiency.

In reviewing HUD's time reporting system in effect during fiscal year 1976, we sometimes had difficulty correlating data. HUD analysts had similar difficulties.

In October 1976 HUD revised its time reporting system, making it more compatible with the work measurement system. Even with these revisions, the system does not provide data that expresses the actual work performed. For example, under the low income housing program, the following countable work units are covered by the same time charge code:

- Management reviews.
- Engineering surveys.
- Utility surveys.

Another problem exists with Housing Production and Mortgage Credit standards. Specific time codes apply to the work units covered by the standards, but other time expended is also allocated to the activities on a pro rata basis. Therefore, there is no assurance that the time charges reflect the amount actually expended on the program.

To achieve compatibility with the work measurement standards, HUD needs to accumulate time charges at a lower work level than it does now.

Accuracy of time reporting

HUD's Departmental Time and Cost Reporting System requires field office employees to record daily time use information by program activity. Time charges collected through this system become the source data for work measurement and productivity analyses. If the time reporting data is not current, its accuracy and the validity of the resulting analysis become questionable. This is particularly true when individuals record time spent on numerous activities with several different codes.

Our review of daily time reports and interviews with staff, conducted well into the month when the reports should have contained several entries, showed that 70 percent of the staff had noncurrent reports; most of them also charged

time to two or more codes. In one case, an individual with a noncurrent report told us he usually charges time to more than 30 different codes.

The results of our observations at five locations in regions V and IX are shown below.

<u>Location</u>	<u>Number of staff interviewed</u>	<u>Number of daily time reports</u>			
		<u>Current</u>	<u>Percent</u>	<u>Not current</u>	<u>Percent</u>
Region V Chicago area office	56	12	21.4	44	78.6
Cincinnati insur- ing office	94	30	31.9	64	68.1
Region IX San Francisco area office	55	40	72.7	15	27.3
	111	27	24.3	84	75.7
	<u>154</u>	<u>31</u>	<u>20.1</u>	<u>123</u>	<u>79.9</u>
Total	<u>470</u>	<u>140</u>	<u>29.8</u>	<u>330</u>	<u>70.2</u>

An area office official told us he did not want his staff spending time filling out time forms every day. He thought the reports were merely an exercise and had no credibility as a management tool in the area office. To him, there was no relevance between the work of his staff and the Departmental Time and Cost Reporting System. HUD's internal auditors, in reviewing daily time reports in the New York region, also found numerous deficiencies which raised questions about the integrity of the system. Some of these were:

- Employees prepared the forms only at the end of each month.
- Employees prepare two to four pro forma forms in advance and submit them in successive months on a rotation basis.
- Program or activity codes are charged according to supervisory instructions which are based on remaining budgeted time or funding availability.

We were told that HUD is nearing completion of an extensive study of the quality of time-reporting data.

Accuracy of task reporting

Time expended is one basic element of work measurement systems; the other is work accomplished, or output.

Some work covered by work measurement standards is not counted. For instance, although HUD has developed standards to cover environmental clearances, such clearances are not as yet counted when performed. In addition, in the Housing Management program and in the Community Planning and Development program areas there are no counts of work accomplished under several standards.

When workload is counted, its accuracy in some instances is suspect due to inconsistencies in definition of tasks. For example, central office data showed region V resolved 24,829 section 518(b) cases during fiscal year 1976; the region reported a total of 29,193.

We were told that a major effort is underway to refine the definition of line items included in HUD's Regional Operating Plan and to identify specific sources for each so that all field and central office personnel will follow uniform instructions.

HUD awareness of problem

Housing program staff in the central office are also aware of and concerned about the lack of feedback on program performance. One problem they identified was that data has to be tracked to many sources and manually analyzed and manipulated to be usable. Because of this and other problems, the efficiency of program activities was not being routinely measured. Similarly, payroll costs and task accomplishment data were not being combined to provide productivity or unit cost information.

The housing program staff has developed a Housing Operations Plan System to attempt to remedy these problems. The system is designed to assist managers in carrying out their responsibilities for goal setting, performance monitoring, and other analyses. The basic data, as planned, should combine time and task reporting data into an accessible, common data file to facilitate workload forecasting and development of work measurement standards.

The development of the Housing Operations Plan System will follow a modular approach by program area. The single family application processing module is the first one being developed and is scheduled for completion about October 1977.

HUD is currently conducting a data quality assessment and has identified problems with the procedures that are used to collect and process the single family workload information. The Department also recognizes that a system for

insuring uniform procedures on data collection and analysis from region to region is lacking.

HUD believes the program-by-program approach is necessary because most of the workload reporting systems from which data will be obtained are either inaccurate or incomplete. Long-range plans are to expand the system to other housing programs, and consideration will be given to expanding it to a Department-wide system.

USE OF FEE PERSONNEL

HUD's budget submission for fiscal years 1977 and possibly 1978 does not accurately reflect the extent fee personnel are used to supplement in-house staff in the insured single family program. Fee personnel are paid from a separate mutual insurance fund. In fiscal year 1976, HUD paid about \$9.4 million to fee appraisers, \$1 million to inspectors and \$.2 million to mortgage credit examiners. The following chart shows the extent and purpose of fee use during fiscal year 1976 and for the 5 months ending November 30, 1976.

	<u>Appraisals</u>		<u>Inspections</u>		<u>Credit checks</u>	
	<u>Number</u>	<u>Amounts</u>	<u>Number</u>	<u>Amount</u>	<u>Number</u>	<u>Amount</u>
1976	189,342	\$9,424,350	88,654	\$1,034,676	37,400	\$187,275
July- Nov.						
1976	<u>96,467</u>	<u>4,798,096</u>	<u>53,380</u>	<u>621,700</u>	<u>14,430</u>	<u>71,965</u>
Total	<u>285,809</u>	<u>\$14,222,446</u>	<u>142,034</u>	<u>\$1,656,376</u>	<u>51,830</u>	<u>\$259,240</u>

Historically, fee personnel have been used to supplement HUD staff during seasonal peaks and in remote locations. The fiscal year 1977 budget indicated that 54,000 single family appraisals, 15 percent of the total, would be done on a fee basis. However, the use of fee personnel has become much more extensive. In March 1977, HUD estimated that 271,000 appraisals--75 percent, not 15 percent--would be done on a fee basis during fiscal year 1977, the equivalent of 335 staff-years.

In the Chicago region, HUD appraisers are being diverted to the section 518(b) program which was not included in the fiscal year 1977 budget. An area office in the San Francisco region has reassigned appraisers to the section 8 subsidized housing programs, which in their view have been understaffed due to poor workload forecasting. The new Secretary of HUD supports the increasing use of fee personnel.

Notwithstanding the estimated 75-percent fee use in fiscal year 1977 and the inclination to make greater use of fee personnel, the fiscal year 1978 budget submission reflects only a 25-percent fee appraiser use and no use of fee inspectors and mortgage credit examiners.

HUD's budgeted fee use of 25 percent is the equivalent of 352 staff-years for appraisal services. In-house personnel will be freed to perform other duties as HUD increases the fee use above 25 percent. The extent to which increases over the 25-percent level result in increased staff-years for the appraisal function or provide staff for other purposes is reflected below.

<u>Percent fee appraisals</u>	<u>Resulting staff-year availability</u>
50	117
75	234
100	352

Note: Based on HUD standard of 2.23 hours per appraisal and HUD estimated workload of 379,100 appraisals, of which 25 percent will be done by fee personnel.

In effect, each 1-percent increase in fee appraisal use over the 25-percent budgeted results in an overstaffing of 4.69 staff-years.

The use of fee personnel to supplement HUD staff may also adversely affect the quality of HUD work. Several studies have found that:

- The \$50 appraisal fee, plus clerical costs, was at least 20 percent more expensive than a HUD staff appraisal.
- Fee appraisers make more mistakes than HUD appraisers because of unfamiliarity with HUD regulations.

IMPORTANCE OF WORKLOAD FORECASTING

A reliable workload forecasting system is as important as reliable work measurement standards. Forecasts are multiplied by standards in arriving at personnel requirements for national budgeting purposes. Accurate forecasts are a key determinant of the appropriate staffing levels to meet HUD's work objectives. We identified several factors casting doubt on the accuracy of forecasts in the fiscal year 1978 budget.

Budget formulation is the exclusive responsibility of HUD's central office. Yet some experts on work measurement recommend that agencies formulate budgets from the bottom up. The fiscal year 1977 budget formulated by the HUD central office did not show any workload for the section 518(b) and (d) programs. After a preliminary allocation of workload, however, the central office was informed by its regional offices that work was expected to be performed under the section 518(b) program during the budget year. HUD now expects a combined workload of 37,500 cases under the programs, and the use of 120 staff-years. If the regions had been consulted as part of the budget formulation process, this situation may have been avoided.

We also noted workload forecasts for fiscal years 1977 and 1978 that appeared excessive when compared to fiscal year 1976 accomplishments. For instance, in fiscal year 1976, HUD did not come close to its goal of approving 50,000 units under the section 235 insured single family program. Indeed, as of December 31, 1976, or after 1 year of operations, the program had firm nationwide obligations for proposed construction of only 3,319 units, with preliminary reservations for an added 14,888 units. A variety of problems were cited as reasons for the limited activity of the program:

- High land and building costs making the mortgage limits totally infeasible in eastern metropolitan areas.
- Reluctance of mortgagees and builders to participate in the program.
- Lack of eligible borrowers able to make the required down payments.

Nevertheless, HUD forecasts that preliminary reservations under the program will be 100,000 a year in both fiscal years 1977 and 1978. The fiscal year 1977 estimate of 462 staff-years for the section 235 program was determined by applying the 100,000-unit forecast to the work measurement standards. If only half of the workload is accomplished this year, it would mean an overstaffing in this area of 231 staff-years.

A HUD official stated that in the current fiscal year (1977) a probable shortfall in the section 235 program will be more than offset by an overage above the budget estimate for the section 203(b) program. Both of these programs, we were told, are single family and utilize the same skills and staffs in the field offices.

Some important work required by administrative procedures rather than by statute is not being accomplished. For example:

- Our August 1976 report 1/ indicated that realty specialists of the Chicago area office had not been properly supervising the activities of area managers. An official of the area office stated he had only 35 authorized positions to do 48 staff-years of work.
- The April 1976 HUD central office evaluation of HUD region V reported staff shortages in 10 housing management areas, noting that physical inspections of multifamily projects were being done on an emergency basis and that there was a tremendous backlog of unreviewed financial statements.

We did not review in detail HUD's entire workload forecasting system. The examples presented above may not be representative of the total system and should not be so interpreted.

A HUD central office official stated that several years' experience with field participation in budget formulation has clearly demonstrated that field input exaggerates the demand for HUD programs and thus tends to make workload forecasting unreliable.

1/"Protecting and Disposing of Single-Family Properties Acquired by the Department of Housing and Urban Development," Aug. 31, 1976 (CED-76-141).

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

We believe that a need exists in HUD and Government-wide for objective, systematic ways to estimate personnel requirements. The Congress, too, needs budget requests that are based on reliable personnel requirement estimating techniques. The concept of work measurement offers potential for yielding more objective and reliable personnel requirements estimates.

Yet, the nature of much of the work in civilian government agencies, including HUD, is such that engineered approaches to establishing work measurement standards would be very costly, and in many cases may not be cost effective. This is because much of the work is seasonably variable, non-routine, or has long cycle times. In these cases, work measurement standards based on historical experience or properly conducted technical estimates may be the most cost effective method for developing the time to perform a given task or operation. These types of standards can be established quickly and at significantly lower cost than engineered standards. The inherent disadvantage, however, is that they are initially less reliable since they tend to be based on past experience and therefore incorporate whatever inefficiencies exist in the way work is done. However, the standards so developed can be updated over time by the use of work sampling or methods studies and adjusted to more appropriately reflect the time it should take to do the work.

HUD's work measurement standards have not progressed to the point where they can be accepted at face value for estimating personal requirements. In part, this is because of weaknesses in the practices used. In spite of this, HUD should be encouraged by the Subcommittee to develop its work measurement system. It would, in our view, be a mistake to, as one HUD official put it, "throw out the baby with the bath water." However, in moving forward, HUD needs to be more concerned with assuring that the standards developed are based on sound work measurement practices. The method or combination of methods should be used that is cost effective.

We identified weaknesses in HUD's procedures for standards development. These must be corrected before standards are further developed.

HUD's work measurement system is also not integrated with time, payroll, and workload reporting systems. Although HUD has a time reporting system, its integrity is questionable because of deficiencies in initial reporting at the employee level. In addition, HUD's workload reporting system is in an early stage of development, and steps have been taken to get better feedback on actual performance to compare with work measurement standards.

To compensate for perceived staff shortages in the subsidized and other housing programs, HUD has been relying on fee personnel in the insured single family program. The extent HUD is using fee personnel to supplement its staff has not been fully disclosed to the Congress.

Faulty workload forecasts may be contributing to unreliable estimates of personnel requirements. If the goal of obtaining reliable estimates of personnel requirements is to be realized, HUD must develop accurate forecasts of workload.

RECOMMENDATIONS TO HUD

We recommend that the Secretary of Housing and Urban Development improve the Department's practices for developing its work measurement standards. To do this, the Secretary should:

- Perform methods studies or other similar studies to identify the most efficient and effective way to do the tasks being measured. Standards should, to the degree practical, be based on the time it should take to efficiently perform the given task.
- Exercise more care in using the questionnaire/interview approach to data collection and evaluate other methods of data collection. The costs and benefits should be considered in deciding what approach or approaches to use.
- Define in further detail the tasks for which standards will be developed, thereby increasing the reliability of the data collected.
- Examine data which seems out of line and ascertain the reasons for it.
- Assure that the individuals responsible for setting standards are independent of the organization being measured and that they carefully review technical estimates of program managers for accuracy and reliability.

- Better document the process of and reasons for judgments used in developing work standards.
- Assure, to the extent feasible, that sample sites selected for data collection to develop standards are representative of the whole Department.
- Formalize a process for reviewing and updating standards as organizational or procedural changes occur.
- Reevaluate the sufficiency of staff resources to develop and maintain the work measurement system.
- Integrate the work measurement system with the Department's time, payroll, and workload reporting systems.
- Insist upon top management's recommitment to the work measurement system effort and communicate it to all HUD staff involved.

RECOMMENDATIONS TO THE SUBCOMMITTEE

The Subcommittee should encourage HUD to develop its work measurement system toward the goal of more objectively and reliably determining staffing requirements.

The Subcommittee should direct the Secretary to present with HUD's fiscal year 1979 budget submission (1) a comprehensive plan for proceeding with its work measurement systems development, and (2) a statement on the progress the Department has made in dealing with the issues presented in this report.

AGENCY COMMENTS

As requested, written comments were not obtained from the Department. However, we discussed our report with Department officials and their views have been considered.

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United States Senate

COMMITTEE ON APPROPRIATIONS
 WASHINGTON, D.C. 20510

July 29, 1976

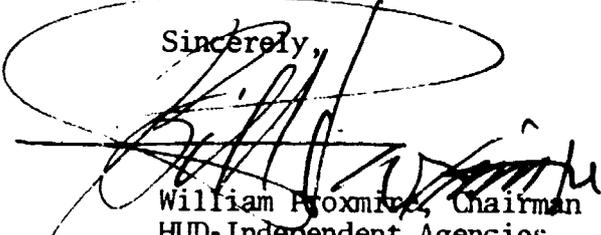
Honorable Elmer B. Staats
 Comptroller General
 General Accounting Office
 Washington, D. C. 20548

Dear Elmer:

For some time now I have been concerned over the increasing demands for staffing at the Department of Housing and Urban Development (HUD), and the extent to which these staffing levels are supported by valid, objective work measurement standards.

In recent testimony, HUD officials again requested additional staffing and stated that such standards now exist for a substantial percentage of their personnel. I would therefore like to request that you undertake an independent study for this Subcommittee directed at assessing the progress that HUD has made in recent years in developing these work measurement standards and the extent to which the standards that now exist are valid for determining personnel staffing requirements. As a minimum I would appreciate your being in a position to brief the Subcommittee on your tentative conclusions by April 1977 with a final report to follow at a later date.

Sincerely,



William Proxmire, Chairman
 HUD-Independent Agencies
 Senate Appropriations Committee

ANALYSIS OF HUD FISCAL YEAR 1978BUDGET REQUEST FOR PERSONNEL

	<u>Staff-years</u>	<u>Percent of total HUD staff</u>
<u>Covered by standards</u>		
Housing Programs:		
Insured single family existing and proposed construction	1,269	7.1
Section 235 single family housing	507	2.8
Section 8 subsidized housing	924	5.1
Insured multifamily	323	1.8
Public housing construction- traditional and Indian	285	1.6
Single family property disposition	640	3.6
Multifamily property disposition	158	.9
Management of public housing	500	2.8
Management of multifamily loans	613	3.4
All other programs	<u>698</u>	<u>3.9</u>
	<u>5,917</u>	<u>33.0</u>
Community Planning and Development:		
Block grants	457	2.5
Comprehensive planning	73	.4
Categorical programs	97	.5
All others	<u>106</u>	<u>.6</u>
	<u>733</u>	<u>4.0</u>
Fair Housing and Equal Opportunity	<u>66</u>	<u>.4</u>
Office of Finance and Accounting	<u>896</u>	<u>5.0</u>
Total	<u><u>7,612</u></u>	<u><u>42.4</u></u>
<u>Covered by staffing allocations, other criteria, or not covered</u>		
Central office functions other than the Office of Finance and Accounting		
	3,670	20.4
Field:		
Housing Programs	2,237	12.5
Community Planning and Develop- ment	637	3.5
Fair Housing and Equal Opportunity	355	2.0
Administration and direction	2,089	11.6
Reimbursable disaster	70	.4
All other	<u>1,289</u>	<u>7.2</u>
	<u>10,347</u>	<u>57.6</u>
Total staff	<u><u>17,959</u></u>	<u><u>100.0</u></u>

SUMMARY OF STAFF-YEARS AND FULL-TIME
EMPLOYMENT IN PERMANENT POSITIONS IN HUD
FISCAL YEARS 1977-1978

	<u>Fiscal year 1977</u>		<u>Fiscal year 1978</u>	
	<u>Employ-</u>	<u>Staff-</u>	<u>Employ-</u>	<u>Staff-</u>
	<u>ees</u>	<u>years</u>	<u>ees</u>	<u>years</u>
Housing programs:				
Washington	705	793.0	685	768.0
Field	<u>7,223</u>	<u>7,580.2</u>	<u>7,976</u>	<u>8,153.6</u>
Total	<u>7,928</u>	<u>8,373.2</u>	<u>8,661</u>	<u>8,921.6</u>
Government National Mortgage Association:				
Washington	<u>41</u>	<u>40.8</u>	<u>43</u>	<u>44.7</u>
Community Planning and Development:				
Washington	273	296.8	283	309.8
Field	<u>1,189</u>	<u>1,251.1</u>	<u>1,377</u>	<u>1,370.0</u>
Total	<u>1,462</u>	<u>1,547.9</u>	<u>1,660</u>	<u>1,679.8</u>
New Communities Administration:				
Washington	<u>75</u>	<u>87.6</u>	<u>75</u>	<u>98.0</u>
Federal Insurance Programs:				
Washington	191	207.0	215	237.0
Field	<u>107</u>	<u>97.0</u>	<u>184</u>	<u>161.9</u>
Total	<u>298</u>	<u>304.0</u>	<u>399</u>	<u>398.9</u>
Consumer Affairs and Regulatory Functions:				
Washington	189	188.7	189	201.0
Field	<u>180</u>	<u>185.0</u>	<u>180</u>	<u>185.0</u>
Total	<u>369</u>	<u>373.7</u>	<u>369</u>	<u>386.0</u>

APPENDIX III

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	<u>Fiscal year 1977</u>		<u>Fiscal year 1978</u>	
	<u>Employ-</u> <u>ees</u>	<u>Staff-</u> <u>years</u>	<u>Employ-</u> <u>ees</u>	<u>Staff-</u> <u>years</u>
Policy Development and Research:				
Washington	204	227.0	208	229.0
Field	-	17.0	-	15.0
Total	<u>204</u>	<u>244.0</u>	<u>208</u>	<u>244.0</u>
Fair Housing and Equal Opportunity:				
Washington	94	91.7	161	162.8
Field	363	398.0	388	421.0
Total	<u>457</u>	<u>489.7</u>	<u>549</u>	<u>583.8</u>
Federal Disaster Assistance Admini- stration:				
Washington	68	82.4	68	83.4
Field	100	155.2	100	173.7
Total	<u>168</u>	<u>237.6</u>	<u>168</u>	<u>257.1</u>
Departmental Manage- ment:				
Washington	<u>162</u>	<u>173.3</u>	<u>164</u>	<u>175.3</u>
Office of General Counsel:				
Washington	<u>200</u>	<u>217.1</u>	<u>200</u>	<u>220.2</u>
Field Legal Services:				
Field	<u>315</u>	<u>332.0</u>	<u>325</u>	<u>341.7</u>
Office of Inspector General:				
Washington	87	92.2	90	94.2
Field	404	405.9	408	412.5
Total	<u>491</u>	<u>498.1</u>	<u>498</u>	<u>506.7</u>

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	<u>Fiscal year 1977</u>		<u>Fiscal year 1978</u>	
	<u>Employ-</u> <u>ees</u>	<u>Staff-</u> <u>years</u>	<u>Employ-</u> <u>ees</u>	<u>Staff-</u> <u>years</u>
Administration: Washington	<u>1,578</u>	<u>1,992.5</u>	<u>1,578</u>	<u>1,952.8</u>
Field direction and operational support: Field	<u>668</u>	<u>732.1</u>	<u>668</u>	<u>737.0</u>
Field administration: Field	<u>1,154</u>	<u>1,279.0</u>	<u>1,225</u>	<u>1,351.7</u>
All activities: Washington	<u>3,867</u>	<u>4,490.1</u>	<u>3,959</u>	<u>4,566.2</u>
Field:				
Regions	11,052	a/11,734.4	12,099	12,535.0
Other	<u>651</u>	<u>698.1</u>	<u>732</u>	<u>788.1</u>
Subtotal, field	<u>11,703</u>	<u>12,432.5</u>	<u>12,831</u>	<u>13,323.1</u>
Total permanent full-time	<u>15,570</u>	<u>16,922.6</u>	<u>16,790</u>	<u>17,889.3</u>
Reimbursable disaster staff-years		<u>149.7</u>		<u>70.0</u>
Total staff-years		<u>17,072.3</u>		<u>17,959.3</u>

a/Includes 1,725 positions authorized for 10 regional offices and 9,228 positions authorized for 76 area and insuring offices.

PRACTICAL EXPERIENCES WITH
WORK MEASUREMENT SYSTEMS

Work measurement systems have received increasing attention in recent years, but some studies conclude that Federal agencies are not getting the maximum benefits possible from work measurement. The following are examples of some of the experiences public and private institutions have had with work measurement systems.

Study of work measurement in
Federal agencies

The U.S. Army Management Engineering Training Agency, which has been providing work measurement training and consulting services to Federal agencies since 1952, conducted a study of the work measurement systems of 11 Federal agencies. In a report issued in 1973, it concluded that with few exceptions the initial attempts to establish work measurement systems had been only partially successful. Maximum benefit was not being derived from many of the existing work measurement systems, in spite of their use in the Federal Government for over 20 years.

Department of Defense

In August 1976, we reported that the full potential of the Department of Defense's work measurement efforts was not being realized. 1/ We expressed the belief that savings could have been considerably greater than the \$121 million reported if the work measurement potential had been fully realized.

In a review of work measurement systems in the military services' real property maintenance operations, 2/ we noted that standards used were largely outdated and that the services did not have adequate work measurement system reporting. As a result, the services fell short of their potential.

We also reviewed operations at a Government-owned, contractor-operated ammunition plant and found that the work

1/"Improvements Needed In Defense's Effort to Use Work Measurement" (LCD-76-401, Aug. 31, 1976).

2/"Major Cost Savings Can Be Achieved By Increasing Productivity In Real Property Management" (LCD-76-320, Aug. 19, 1976).

measurement program was partially successful, but did not fully meet the objectives intended. 1/ Although the plant had made notable progress in its work measurement program, it was not achieving intended results because of deficiencies in the direct labor standards, and was not achieving attainable productivity.

Department of Health, Education, and Welfare

Like HUD, the Department of Health, Education, and Welfare has a staff management system designed for estimating staff requirements and for fostering efficient management of personnel resources. As part of its efforts, the Department has developed, with the help of outside consultants, manuals describing procedures for gathering data and implementing manpower management systems.

One of the Department's component agencies, the Public Health Service, has conducted work measurement and manpower utilization studies to broaden the coverage of its work measurement system.

Farmers Home Administration

The Farmers Home Administration is in the second year of a 3-year project to establish a work measurement system for its 1,750 county offices. With assistance from the Joint Financial Management Improvement Program, the Civil Service Commission, the General Services Administration, and GAO, it developed a plan to survey 75 percent of its offices through a process of detailed employee time reporting. Upon completion of the project, work measurement standards representing local conditions for each State are to be developed.

Currently, data generated by its work measurement system is used to estimate national staffing needs, subject to adjustment where the data is not reliable.

Local government

Work measurement standards were successfully used by a city water department to increase its productivity. With the help of consultants, the department developed work

1/Letter report to the Secretary of the Army on results of review at Lone Star Army Ammunition Plant, Texarkana, Texas (B-175462, Oct. 26, 1976).

measurement standards and systems to report time and production data. As a result of a methods improvement study and work measurement, the department reduced its staff 25 percent while workload and service levels stayed the same.

Private mortgage banking
and insurance industries

Based on contacts with six companies and a number of industry associations, use of formal work measurement systems does not appear to be widespread in the mortgage banking or mortgage insurance industries. Standards and work measurement systems were generally considered impractical because of small staffs, variety in the work performed, and nonuniform work units.

Staffing requirements were not based on scientific methods, but instead on overall workload volume indicators (such as the number of loans or dollar volume per employee), subject to management judgment and discretion.